

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A three-dimensional image display device, comprising:

a display panel which ~~has~~comprises a plurality of pixel sections each of which includes an L pixel displaying an image for ~~the~~a left eye of a viewer and an R pixel displaying an image for ~~the~~a right eye of said viewer, said pixel sections being provided periodically in a first direction, ~~forming a left line segment and a right line segment wherein said line segments are perpendicular to a first direction;~~ and

an optical unit that ~~consists of~~comprises a plurality of lenses that refract light emitted from said pixels,

wherein said optical unit refracts the light emitted from said pixels in different directions ~~different from each other~~ to make light emitted from R pixels incident to the right eye and light emitted from L pixels incident on the left eye ~~of a viewer~~ and to allow said viewer to recognize a three-dimensional image, and

wherein the lens pitch of said optical unit is less than 0.2 mm.

2. (currently amended): A three-dimensional image display device, comprising:

a display panel which ~~has~~comprises a plurality of pixel sections each of which includes a pixel displaying an image for ~~the~~a left eye of a viewer and a pixel displaying an image for ~~the~~a

right eye of said viewer, said pixel sections being provided periodically in a first direction;

~~forming a left line segment and a right line segment, wherein said line segments are perpendicular to said first direction; and~~

an optical unit that ~~consists of~~comprises a plurality of lenses that refract light emitted from said pixels,

wherein said optical unit refracts the light emitted from said pixels and emits the light in different directions ~~different from each other~~ to make the light from different pixels incident to the right eye and the left eyes of a viewer ~~eye~~ and to allow said viewer to recognize a three-dimensional image, ~~and~~

wherein when a normal distance between ~~the~~a surface of said optical unit and a line segment which corresponds to ~~the~~a longest width in said first direction of ~~the~~a three-dimensional visible range from which said viewer can recognize the three-dimensional image is set to a normal distance OD (mm),

wherein ~~and~~ the lens pitch of said optical unit is set to L (mm),

wherein said normal distance OD is 350 mm or less, and

wherein said normal distance OD and said lens pitch L are set so as to satisfy the following expression:-

$$L \leq 2 \times OD \times (0.000291).$$

3. (currently amended) A three-dimensional image display device, comprising:

a display panel which ~~has~~comprises a plurality of pixel sections each of which includes a pixel displaying an image for ~~the~~a left eye ~~of~~of a viewer and a pixel displaying an image for ~~the~~a right eye ~~of said viewer~~, said pixel sections being provided periodically in a direction; and
an optical unit that ~~consists of~~comprises a plurality of lenses that refract light emitted from said pixels,

wherein said optical unit refracts the light emitted from said pixels and emits the light in different directions ~~different from each other~~ to make the light from different pixels incident to the right and left eyes of ~~a~~said viewer and to allow said viewer to recognize a three-dimensional image, and

wherein the lens pitch of said optical unit is 0.124 mm or less.

4. (currently amended) A three-dimensional image display device, comprising:

a display panel which ~~has~~comprises a plurality of pixel sections each of which includes a pixel displaying an image for ~~the~~a left eye ~~of~~of a viewer and a pixel displaying an image for ~~the~~a right eye ~~of said viewer~~, said pixel sections being provided periodically in a direction; and
an optical unit that ~~consists of~~comprises a plurality of lenses that refract light emitted from said pixels,

wherein said optical unit refracts the light emitted from said pixels and emits the light in different directions ~~different from each other~~ to make the light from different pixels incident to the right and left eyes ~~of a~~of a viewer and to allow said viewer to recognize a three-dimensional image,

wherein a shortest distance between a three-dimensional visible range, from which said viewr-viewer can recognize the three-dimensional image and the-a surface of said optical unit is set to ND (mm),

wherein and thea lens pitch of said optical unit is set to L (mm),

wherein said distance ND is 213 mm or less, and

wherein said distance ND and said lens pitch L are set so as to satisfy the following expression:

$$L \leq 2 \times ND \times (0.000291).$$

5. (currently amended): The three-dimensional image display device according to Claim 1, wherein said pixel sections consist of two types of pixels that are the-pixels for the right eye and the-pixelpixels for the left eye.

6. (currently amended): The three-dimensional image display device according to Claim 1, wherein said optical unit is-comprises a lenticular lens.

7. (currently amended): The three-dimensional image display device according to Claim 1, wherein said optical unit is-comprises a fly-eye lens.

8. (currently amended): The three-dimensional image display device according to Claim 1, wherein said display panel is-comprises a liquid crystal display panel.

9. (currently amended): The three-dimensional image display device according to Claim 2, wherein said pixel sections consist of two types of pixels that are ~~the~~ pixels for the right eye and ~~the~~ pixels for the left eye.

10. (currently amended): The three-dimensional image display device according to Claim 2, wherein said optical unit ~~is~~ comprises a lenticular lens.

11. (currently amended): The three-dimensional image display device according to Claim 2, wherein said optical unit ~~is~~ comprises a fly-eye lens.

12. (currently amended): The three-dimensional image display device according to Claim 2, wherein said display panel ~~is~~ comprises a liquid crystal display panel.

13. (currently amended): The three-dimensional image display device according to Claim 3, wherein said pixel sections consist of two types of pixels that are ~~the~~ pixels for the right eye and ~~the~~ pixels for the left eye.

14. (currently amended): The three-dimensional image display device according to Claim 3, wherein said optical unit comprises ~~is~~ a lenticular lens.

15. (currently amended): The three-dimensional image display device according to
Claim 3, wherein said optical unit comprisesis a fly-eye lens.

16. (currently amended): The three-dimensional image display device according to
Claim 3, wherein said display panel comprisesis a liquid crystal display panel.

17. (currently amended): The three-dimensional image display device according to
Claim 4, wherein said pixel sections consist of two types of pixels that are ~~the~~ pixels for the right
eye and ~~the~~ pixels for the left eye.

18. (currently amended): The three-dimensional image display device according to
Claim 4, wherein said optical unit comprisesis a lenticular lens.

19. (currently amended): The three-dimensional image display device according to
Claim 4, wherein said optical unit comprisesis a fly-eye lens.

20. (currently amended): The three-dimensional image display device according to
Claim 4, wherein said display panel comprisesis a liquid crystal display panel.

21. (previously presented): A portable terminal device, comprising the three-
dimensional image display device according to Claim 1.

22. (previously presented): A portable terminal device, comprising the three-dimensional image display device according to Claim 2.

23. (previously presented): A portable terminal device, comprising the three-dimensional image display device according to Claim 3.

24. (previously presented): A portable terminal device, comprising the three-dimensional image display device according to Claim 4.

25. (Original) The portable terminal device according to Claim 21, wherein said device is any one of a cellular phone, a personal information terminal, a game machine, a digital camera, and a digital video camera.

26. (Original) The portable terminal device according to Claim 22, wherein said device is any one of a cellular phone, a personal information terminal, a game machine, a digital camera, and a digital video camera.

27. (Original) The portable terminal device according to Claim 23, wherein said device is any one of a cellular phone, a personal information terminal, a game machine, a digital camera, and a digital video camera.

28. (Original) The portable terminal device according to Claim 24, wherein said device is any one of a cellular phone, a personal information terminal, a game machine, a digital camera, and a digital video camera.

29. (Cancelled).

30. (currently amended): A three-dimensional image display device, comprising:
a display panel which ~~has~~ comprises a plurality of pixel sections each of which ~~includes~~ includes a pixel displaying an image for ~~the~~a left eye of a viewer and a pixel displaying an image for ~~the~~a right eye of said viewer, said pixel sections being provided periodically in a direction, ~~forming a perpendicular line segment~~, wherein asaid viewer holds the three-dimensional image display device in hand and views the three-dimensional image while ~~he/she~~said viewer moves; and

an optical unit that ~~consists of~~comprises a plurality of lenses that refract light emitted from said pixels,

wherein said optical unit refracts the light emitted from said pixels and emits the light in different directions different from each other to make the light from different pixels incident to the right and left eyes of asaid viewer, respectively, and to allow said viewer to recognize a three-dimensional image, and

wherein the lens pitch of said optical unit is less than 0.2 mm.

31. (currently amended): A three-dimensional image display device, comprising:
a display panel which has a plurality of pixel sections each of which includes a pixel
displaying an image for ~~the a~~ left eye of a viewer and a pixel displaying an image for ~~the a~~ right
eye of said viewer, said pixel sections being provided periodically in a direction, wherein as
aid viewer holds the three-dimensional image display device in hand and views the three-
dimensional image while ~~he/she~~said viewer moves; and

an optical unit that ~~consists of~~comprises a plurality of lenses that refract light emitted
from said pixels,

wherein said optical unit refracts the light emitted from said pixels and emits the light in
different directions ~~different from each other~~ to make the light from different pixels incident to
the right and left eyes of asaid viewer and to allow said viewer to recognize a three-dimensional
image, and

wherein the ~~perpendicular~~normal distance from ~~a~~most ~~peripheral~~ line segment ~~out of~~
~~line segments~~ ~~at the a~~ surface of said optical unit to the plane of the viewer's eyes, is set to a
distance OD (mm);

wherein and ~~the a~~ lens pitch of said optical unit is set to L (mm),

wherein said distance OD is 350 mm or less; and

wherein said distance OD and said lens pitch L are set so as to satisfy the following
expression:

$$L \leq 2 \times OD \times (0.000291).$$

32. (new): The three-dimensional image display device according to Claim 2, wherein the lens pitch L of said optical unit is set to a first value, wherein the first value is less than or equal to twice the product of the normal distance OD multiplied by 0.000291.